

PRODUCT INFORMATION



1-Palmitoyl-d₉-2-hydroxy-sn-glycero-3-PC MaxSpec[®] Standard

Item No. 30580

CAS Registry No.: 1872379-72-0

Formal Name: (7R)-4,7-dihydroxy-N,N,N-trimethyl-10-oxo-3,5,9-trioxa-4-phosphapentacosan-22,22,23,23,24,24,25,25,25-d₉-1-aminium, 4-oxide, inner salt

Synonyms: 1-Hexadecanoyl-d₉-sn-glycero-3-Phosphatidylcholine, 1-Hexadecanoyl-d₉-sn-glycero-3-Phosphocholine, 16:0(d₉) Lyso-PC, PC(16:0-d₉/0:0), 16:0-d₉/0:0-PC

MF: C₂₄H₄₁D₉NO₇P

FW: 504.7

Purity: ≥95%

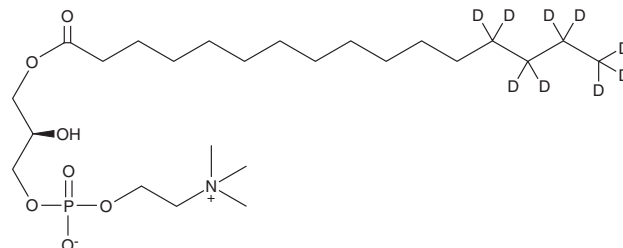
Supplied as: A solution in chloroform:methanol (9:1); in a deactivated glass ampule

Concentration: 100 µg/ml (nominal); see certificate of analysis for verified concentration

Storage: -20°C

Stability: ≥1 year; Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.

Special Conditions: Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.



Description

1-Palmitoyl-d₉-2-hydroxy-sn-glycero-3-PC is intended for use as an internal standard for the quantification of 1-palmitoyl-2-hydroxy-sn-glycero-3-PC (Item No. 10172) by GC- or LC-MS. 1-Palmitoyl-2-hydroxy-sn-glycero-3-PC is the ubiquitous lipid species generated following phospholipase A₂ (PLA₂) hydrolysis of phosphatidylcholine.¹ It increases the production of reactive oxygen species (ROS) and decreases superoxide dismutase (SOD) and endothelial nitric oxide synthase (eNOS) protein levels and phosphorylation of ERK1/2 in human umbilical vein endothelial cells (HUVECs) when used at a concentration of 125 µM.² 1-Palmitoyl-2-hydroxy-sn-glycero-3-PC potentiates the secretion of IL-6, IL-1β, IL-12, and TNF-α in LPS-stimulated M1 macrophages, but has no effect on CD163, CD206, CD36, or IL-10 in LPS-stimulated M2 macrophages when used at concentrations of 0.3 and 1.0 µM.³ It increases TGF-β1 production and enhances Foxp3 protein levels in T_{reg} cells in isolated human peripheral blood when used at a concentration of 10 µM.⁴ 1-Palmitoyl-2-hydroxy-sn-glycero-3-PC enhances neutrophil function, bacterial clearance, and survival in mouse models of sepsis when administered at a dose of 10 mg/kg.⁵

1-Palmitoyl-d₉-2-hydroxy-sn-glycero-3-PC MaxSpec[®] standard is a quantitative grade standard of 1-palmitoyl-d₉-2-hydroxy-sn-glycero-3-PC (Item No. 28153) that has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. This 1-palmitoyl-d₉-2-hydroxy-sn-glycero-3-PC MaxSpec[®] standard is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product. **Note:** The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.

References

1. Balsinde, J., Winstead, M.V., and Dennis, E. *FEBS Lett.* **531**(1), 2-6 (2002).
2. Choi, S., Park, S., Liang, G.H., et al. *Cell Physiol. Biochem.* **25**(2-3), 233-240 (2010).
3. Qin, X., Qiu, C., and Zhao, L. *Cell. Immunol.* **289**(1-2), 185-190 (2014).
4. Hasegawa, H., Lei, J., Matsumoto, T., et al. *Biochem. Biophys. Res. Commun.* **415**(3), 526-531 (2011).
5. Yan, J.-J., Jung, J.-S., Lee, J.-E., et al. *Nat. Med.* **10**(2), 161-167 (2004).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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